

Eaton® Two-in-One PowerPass® Distribution Module User's Guide

For use with 9135 Two-in-One
5000/6000 VA UPS Models



Powering Business Worldwide

Class A EMC Statements

FCC Part 15

NOTE This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

ICES-003

This Class A Interference Causing Equipment meets all requirements of the Canadian Interference Causing Equipment Regulations ICES-003.

Cet appareil numérique de la classe A respecte toutes les exigences du Règlement sur le matériel brouilleur du Canada.

EN 50091-2

Some configurations are classified under EN 50091-2 as “Class-A UPS for Unrestricted Sales Distribution.” For these configurations, the following applies:

WARNING This is a Class A-UPS Product. In a domestic environment, this product may cause radio interference, in which case, the user may be required to take additional measures.

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Requesting a Declaration of Conformity

Units that are labeled with a CE mark comply with the following harmonized standards and EU directives:

- Harmonized Standards: EN 62040-1-1 (2004-12) and EN 62040-2 (2006-6); IEC 60950 Third Edition
- EU Directives: 2006/95/EC, Council Directive on equipment designed for use within certain voltage limits
2004/108/EC, Council Directive relating to electromagnetic compatibility

The EC Declaration of Conformity is available upon request for products with a CE mark. For copies of the EC Declaration of Conformity, contact:

Eaton Power Quality SAS
110, Rue Blaise Pascal
38334 St ISMIER
FRANCE
Phone: +33 476 00 66 66

Special Symbols

The following are examples of symbols used on the UPS or accessories to alert you to important information:



RISK OF ELECTRIC SHOCK - Indicates that a risk of electric shock is present and the associated warning should be observed.



CAUTION: REFER TO OPERATOR'S MANUAL - Refer to your operator's manual for additional information, such as important operating and maintenance instructions.



This symbol indicates that you should not discard the UPS or the UPS batteries in the trash. This product contains sealed, lead-acid batteries and must be disposed of properly. For more information, contact your local recycling/reuse or hazardous waste center.



This symbol indicates that you should not discard waste electrical or electronic equipment (WEEE) in the trash. For proper disposal, contact your local recycling/reuse or hazardous waste center.

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Chapter 1 Introduction

The PowerPass® Distribution Module (PPDM) is designed to operate with a 5000/6000 VA Eaton® 9135 uninterruptible power system (UPS). The PPDM allows you to:

- Replace or upgrade the UPS without losing power to the protected equipment (see “Using Maintenance Bypass” on page 35).
- Provide surge protection if the UPS is not present.
- Provide extra surge protection when the UPS is present.

Safety Warnings

IMPORTANT SAFETY INSTRUCTIONS SAVE THESE INSTRUCTIONS

This manual contains important instructions that you should follow during installation and maintenance of the UPS and PPDM. Please read all instructions before operating the equipment and save this manual for future reference.

DANGER



This UPS contains **LETHAL VOLTAGES**. All repairs and service should be performed by **AUTHORIZED SERVICE PERSONNEL ONLY**. There are **NO USER SERVICEABLE PARTS** inside the UPS.

CAUTION



- To reduce the risk of fire or electric shock, install this UPS in a temperature and humidity controlled, indoor environment, free of conductive contaminants. Ambient temperature must not exceed 40°C (104°F). Do not operate near water or excessive humidity (95% maximum).
 - For PPDM models with hardwired outputs, overcurrent protection for the output AC circuit(s) is to be provided by others.
 - For PPDM models with hardwired outputs, suitably rated disconnect switches for the output AC circuit(s) are to be provided by others.
-

Sikkerhedsanvisninger

VIGTIGE SIKKERHEDSANVISNINGER GEM DISSE ANVISNINGER

Denne manual indeholder vigtige instruktioner, som skal følges under installation og vedligeholdelse af UPS'en og PDU. Læs venligst alle instruktioner inden betjening af udstyret og gem denne manual mhp. fremtidige opslag.



FARE

Denne UPS indeholder LIVSFARLIG HØJSPÆNDING. Alle reparationer og vedligeholdelse bør kun udføres af en AUTORISERET SERVICE TEKNIKER. Ingen af UPS'ens indvendige dele kan repareres af brugeren.



ADVARSEL

- Installér denne UPS i et temperatur- og fugtighedskontrolleret indendørsmiljø, frit for ledende forureningsstoffer for at formindske risikoen for brand og elektrisk stød. Rumtemperaturen må ikke overstige 40°C. UPS'en bør ikke betjenes nær vand eller høj fugtighed (maksimalt 95%).
 - For PPDM systemer med hårdledningsudgange, skal overstrømsbeskyttelse for vekslestrømmens udgangskredsløb forsynes af andre.
 - For PPDM systemer med hårdledningsudgange, skal egnede, nominelle afbryderkontakter for vekslestrømmens udgangskredsløb forsynes af andre.
-

Belangrijke Veiligheidsinstructies

BELANGRIJKE VEILIGHEIDSINSTRUCTIES BEWAAR DEZE INSTRUCTIES

Deze handleiding bevat belangrijke instructies die u dient te volgen tijdens de installatie en het onderhoud van de UPS en de PDU. Lees alle instructies voordat u de apparatuur in bedrijf neemt en bewaar deze handleiding als naslagwerk.



GEVAAR

Deze UPS bevat LEVENSGEVAARLIJKE ELEKTRISCHE SPANNING. Alle reparaties en onderhoud dienen UITSLUITEND DOOR ERKEND SERVICEPERSONEEL te worden uitgevoerd. Er bevinden zich GEEN ONDERDELEN in de UPS die DOOR DE GEBRUIKER kunnen worden GEREPAREERD.



OPGELET

- Teneinde de kans op brand of elektrische schok te verminderen dient deze UPS in een gebouw met temperatuur- en vochtigheidsregeling te worden geïnstalleerd, waar geen geleidende verontreinigingen aanwezig zijn. De omgevingstemperatuur mag 40°C niet overschrijden. Niet gebruiken in de buurt van water of bij zeer hoge vochtigheid (max. 95%).
- Voor PPDM systemen met vast-bedrade uitgangen, moet de overstroombeveiliging voor wisselstroom uitvoercircuit(s) door anderen worden geleverd.
- Voor PPDM systemen met vast-bedrade uitgangen, moeten de juiste hoofdschakelaars voor wisselstroom uitvoercircuit(s) door anderen worden geleverd.

Tarkeita Turvaohjeita

TÄRKEITÄ TURVAOHJEITA - SUOMI SÄILYTÄ NÄMÄ OHJEET

Tämä käyttöohje sisältää tärkeitä ohjeita, joita on noudatettava UPS-virtalähteen ja PPDM asennuksen ja huollon yhteydessä. Lue kaikki ohjeet ennen laitteiston käyttöä ja säilytä ohje myöhempiä tarvetta varten.



VAARA

Tämä UPS sisältää HENGENVAARALLISIA JÄNNITTEITÄ. Kaikki korjaukset ja huollot on jätettävä VAIN VALTUUTETUN HUOLTOHENKILÖN TOIMEKSI. UPS ei sisällä MITÄÄN KÄYTTÄJÄN HUOLLETTAVIA OSIA.



VARO

- Vähentääksesi tulipalon ja sähköiskun vaaraa asenna tämä UPS sisätiloihin, joissa lämpötila ja kosteus on säädettävissä ja joissa ei ole virtaa johtavia epäpuhtauksia. Ympäristön lämpötila ei saa ylittää 40 °C. Älä käytä lähellä vettä ja vältä kosteita tiloja (95 % maksimi).
- PPDM-järjestelmissä kiintealla asennuksella: kuormana olevien laitteiden ylivirtasuojaus ja erotuskytkimet tulee toteuttaa kuormapiireissa.

Consignes de sécurité

CONSIGNES DE SÉCURITÉ IMPORTANTES CONSERVER CES INSTRUCTIONS

Ce manuel comporte des instructions importantes que vous êtes invité à suivre lors de toute procédure d'installation et de maintenance de PPDM et de l'onduleur. Veuillez consulter entièrement ces instructions avant de faire fonctionner l'équipement et conserver ce manuel afin de pouvoir vous y reporter ultérieurement.



DANGER!

Cet onduleur contient des TENSIONS MORTELLES. Toute opération d'entretien et de réparation doit être EXCLUSIVEMENT CONFIEE A UN PERSONNEL QUALIFIE AGRÉÉ. AUCUNE PIÈCE RÉPARABLE PAR L'UTILISATEUR ne se trouve dans l'onduleur.



ATTENTION!

- Pour réduire les risques d'incendie et de décharge électrique, installer l'onduleur uniquement à l'intérieur, dans un lieu dépourvu de matériaux conducteurs, où la température et l'humidité ambiantes sont contrôlées. La température ambiante ne doit pas dépasser 40 °C. Ne pas utiliser à proximité d'eau ou dans une atmosphère excessivement humide (95 % maximum).
- Pour les modèles PPDM ayant des sorties câblées, la protection contre une surintensité pour le(s) circuit(s) de sortie de courant alternatif doit être fournie par un autre fournisseur.
- Pour les modèles PPDM ayant des sorties câblées, les interrupteurs de déconnexion convenables pour le(s) circuit(s) de sortie de courant alternatif doivent être fournis par un autre fournisseur.

Sicherheitswarnungen

WICHTIGE SICHERHEITSANWEISUNGEN AUFBEWAREN

Dieses Handbuch enthält wichtige Anweisungen, die Sie während der Installation und Wartung des USV (Unterbrechungsfreies Stromversorgungssystem) und der PPDM befolgen müssen. Bitte lesen Sie alle Anweisungen des Handbuches bevor sie mit dem Gerät arbeiten. Bewahren Sie das Handbuch zum Nachlesen auf.

WARNUNG



Die USV führt lebensgefährliche Spannungen. Alle Reparatur- und Wartungsarbeiten sollten nur von Kundendienstfachleuten durchgeführt werden. Die USV enthält keine vom Benutzer zu wartenden Komponenten.

VORSICHT!



- Um die Brand- oder Elektroschockgefahr zu verringern, diese USV nur in Gebäuden mit kontrollierter Temperatur und Luftfeuchtigkeit installieren, in denen keine leitenden Schmutzstoffen vorhanden sind. Die Umgebungstemperatur darf 40°C nicht übersteigen. Die USV nicht in der Nähe von Wasser oder in extrem hoher Luftfeuchtigkeit (max. 95 %) betreiben.
 - Für PPDM-Systeme mit festverdrahteten Eingängen muß der Überstromschutz für die Ausgangswechselstromkreise anderweitig bereitgestellt werden.
 - Für PPDM-Systeme mit festverdrahteten Ausgängen müssen Trennschalter für die Ausgangswechselstromkreise mit passendem Nennwert anderweitig bereitgestellt werden.
-

Avvisi di sicurezza

IMPORTANTI ISTRUZIONI DI SICUREZZA CONSERVARE QUESTE ISTRUZIONI

Il presente manuale contiene importanti istruzioni da seguire durante l'installazione e la manutenzione dell'UPS e dell'PPDM. Leggere integralmente le istruzioni prima di utilizzare l'apparecchiatura e conservare il presente manuale per futuro riferimento.



PERICOLO

La TENSIONE contenuta in questo gruppo statico di continuità è LETALE. Tutte le operazioni di riparazione e di manutenzione devono essere effettuate ESCLUSIVAMENTE DA PERSONALE TECNICO AUTORIZZATO. All'interno del gruppo statico di continuità NON vi sono PARTI RIPARABILI DALL'UTENTE.



ATTENZIONE

- Per ridurre il rischio di incendio o di scossa elettrica, installare il gruppo statico di continuità in un ambiente interno a temperatura ed umidità controllata, privo di agenti contaminanti conduttivi. La temperatura ambiente non deve superare i 40°C. Non utilizzare l'unità in prossimità di acqua o in presenza di umidità eccessiva (95% max).
- Nei sistemi PPDM provvisti di uscite cablate, i dispositivi di protezione da sovracorrente per il/i circuito/i a corrente alternata in uscita devono essere forniti da terzi.
- Nei sistemi PPDM provvisti di uscite cablate, i sezionatori di corrente nominale adeguata per il/i circuito/i a corrente alternata in uscita devono essere forniti da terzi.

Viktig Sikkerhetsinformasjon

VIKTIGE SIKKERHETSINSTRUKSJONER GJEM DISSE INSTRUKSJONENE

Denne håndboken inneholder viktige instruksjoner som du bør overholde ved montering og vedlikehold av UPS-enheten og PPDM. Les alle instruksjoner før utstyret tas i bruk, og gjem håndboken til fremtidig referanse.



FARLIG

Denne UPS'en inneholder LIVSFARLIGE SPENNINGER. All reparasjon og service må kun utføres av AUTORISERT SERVICEPERSONALE. BRUKERE KAN IKKE UTFØRE SERVICE PÅ NOEN AV DELENE i UPS'en.



FORSIKTIG

- For å redusere fare for brann eller elektriske støt, bør denne UPS'en installeres i et innendørs miljø med kontrollert temperatur og luftfuktighet som er fritt for ledende, forurensende stoffer. Romtemperaturen må ikke overskride 40°C. Den må ikke brukes i nærheten av vann eller ved meget høy luftfuktighet (95% maks.).
- For PPDM systemer med fastkoplede uttak, må overstrømværn for vekselstrømuttak(ene) stilles til rådighet av andre.
- For PPDM systemer med fastkoplede uttak, må passende utkoplingsbrytere for vekselstrømuttak(ene) stilles til rådighet av andre.

Regulamentos de Segurança

INSTRUÇÕES DE SEGURANÇA IMPORTANTES GUARDE ESTAS INSTRUÇÕES

Este manual contém instruções importantes que devem ser seguidas durante a instalação e manutenção do no-break e da PPDM. Leia todas as instruções antes de operar o equipamento e guarde este manual para consultá-lo futuramente.



CUIDADO

A UPS contém VOLTAGEM MORTAL. Todos os reparos e assistência técnica devem ser executados **SOMENTE POR PESSOAL DA ASSISTÊNCIA TÉCNICA AUTORIZADO**. Não há nenhuma PEÇA QUE POSSA SER REPARADA PELO USUÁRIO dentro da UPS.



PERIGO

- Para reduzir o risco de incêndios ou choques elétricos, instale a UPS em ambiente interno com temperatura e umidade controladas e livres de contaminadores condutíveis. A temperatura ambiente não deve exceder 40°C. Não opere próximo a água ou em umidade excessiva (máx: 95%).
- Para sistemas PPDM com saídas conectadas, a proteção de sobrecarga para circuitos de saída de corrente alternada deve ser fornecida por outros.
- Para sistemas PPDM com saídas conectadas, interruptores de desconexão devidamente qualificados para circuitos de saída de corrente alternada devem ser fornecidos por outros.

Предупреждения по мерам безопасности

ВАЖНЫЕ УКАЗАНИЯ ПО МЕРАМ БЕЗОПАСНОСТИ СОХРАНИТЕ ЭТИ УКАЗАНИЯ

В данном руководстве содержатся важные инструкции по установке и обслуживанию источника бесперебойного питания (ИБП) и батарей. Перед работой с оборудованием прочтите все инструкции. Сохраните данное руководство для дальнейшего использования.



ОПАСНО

В данном ИБП имеются СМЕРТЕЛЬНО ОПАСНЫЕ НАПРЯЖЕНИЯ. Все работы по ремонту и обслуживанию должны выполняться ТОЛЬКО УПОЛНОМОЧЕННЫМ ОБСЛУЖИВАЮЩИМ ПЕРСОНАЛОМ. Внутри ИБП нет узлов, ОБСЛУЖИВАЕМЫХ ПОЛЬЗОВАТЕЛЕМ.



ОСТОРОЖНО

- Для снижения опасности пожара или поражения электрическим током устанавливайте ИБП в закрытом помещении с контролируемыми температурой и влажностью, в котором отсутствуют проводящие загрязняющие вещества. Температура окружающего воздуха не должна превышать 40°C. Не эксплуатируйте устройство около воды или в местах с повышенной влажностью (макс. 95%).
 - Для моделей ИБП с постоянно запаянными выходными контактами устройство защиты от перегрузки выходного контура (контуров) переменного тока приобретается отдельно.
 - Для моделей ИБП с постоянно запаянными выходными контактами соответствующие размыкающие переключатели выходного контура (контуров) переменного тока приобретаются отдельно.
-

Advertencias de Seguridad

INSTRUCCIONES DE SEGURIDAD IMPORTANTES GUARDE ESTAS INSTRUCCIONES

Este manual contiene instrucciones importantes que debe seguir durante la instalación y el mantenimiento del SIE y del PPDM. Por favor, lea todas las instrucciones antes de poner en funcionamiento el equipo y guarde este manual para referencia en el futuro.



PELIGRO

Este SIE contiene VOLTAJES MORTALES. Todas las reparaciones y el servicio técnico deben ser efectuados SOLAMENTE POR PERSONAL DE SERVICIO TÉCNICO AUTORIZADO. No hay NINGUNA PARTE QUE EL USUARIO PUEDA REPARAR dentro del SIE.



PRECAUCIÓN

- Para reducir el riesgo de incendio o de choque eléctrico, instale este SIE en un lugar cubierto, con temperatura y humedad controladas, libre de contaminantes conductores. La temperatura ambiente no debe exceder los 40°C. No trabaje cerca del agua o con humedad excesiva (95% máximo).
- Para los sistemas PPDM con salidas cableadas permanentemente, la protección contra exceso de corriente para el/los circuito(s) de CA de salida será suministrada por terceros.
- Para los sistemas PPDM con salidas cableadas permanentemente, los interruptores de desconexión debidamente clasificados para el/los circuito(s) de CA de salida serán suministrados por terceros.

Säkerhetsföreskrifter

VIKTIGA SÄKERHETSFÖRESKRIFTER SPARA DESSA FÖRESKRIFTER

Den här anvisningen innehåller viktiga instruktioner som du ska följa under installation och underhåll av UPS-enheten och PPDM. Läs alla instruktioner innan du använder utrustningen och spara den här anvisningen för framtida referens.

FARA



Denna UPS-enhet innehåller LIVSFARLIG SPÄNNING. ENDAST AUKTORISERAD SERVICEPERSONAL får utföra reparationer eller service. Det finns inga delar som ANVÄNDAREN KAN UTFÖRA SERVICE PÅ inuti UPS-enheten.

VIKTIGT



- Minska risken för brand eller elektriska stötar genom att installera denna UPS-enhet inomhus, där temperatur och luftfuktighet är kontrollerade och där inga ledande föroreningar förekommer. Omgivande temperatur får ej överstiga 40°C. Använd inte utrustningen nära vatten eller vid hög luftfuktighet (max 95 %).
- Överströmsskydd för de utgående växelströmskretsarna ska tillhandahållas av andra för PPDM-system med fasta utgångar.
- Bortkopplingsswitchar med passande dimensionering för de utgående växelströmskretsarna ska tillhandahållas av andra för PPDM-system med fasta utgångar.

Chapter 2 Installation

This section explains:

- Equipment inspection
- UPS setup
- PowerPass Distribution Module (PPDM) installation
- PPDM rear panels

Inspecting the Equipment

If any equipment has been damaged during shipment, keep the shipping cartons and packing materials for the carrier or place of purchase and file a claim for shipping damage. If you discover damage after acceptance, file a claim for concealed damage.

To file a claim for shipping damage or concealed damage: 1) File with the carrier within 15 days of receipt of the equipment; 2) Send a copy of the damage claim within 15 days to your service representative.



NOTE Check the battery recharge date on the shipping carton label. If the date has passed and the batteries were never recharged, do not use the UPS. Contact your service representative.

PPDM Setup

The 9135 UPSs are designed for flexible configurations and can be installed in a rack or as a standalone cabinet.

If the UPS is already installed and operating, shut down the UPS before installing the PPDM. See the following section, “UPS Shutdown.”

For new UPS installations, continue to “PPDM Setup” on page 15.

UPS Shutdown

If the UPS is already installed and operating, shut down the UPS:

1. Prepare your equipment for shutdown.
2. Press the  button for approximately three seconds.

The UPS beeps once, and the load is no longer protected by the UPS. It is powered by utility power. If the UPS is set in frequency converter mode, the equipment will not be powered.

If the utility power is out of tolerance, the UPS will generate a 10 ms output calibrated break.

3. For a full shutdown of UPS and connected load, the upstream circuit breaker (not included) should be set to the OFF position.
4. Continue to the following section, "PPDM Setup."

PPDM Setup

To set up the PPDM with the 9135 UPS:

1. For tower configurations, continue to Step 2; for rack configurations, continue to Step 7 on page 17.
2. **Tower configuration only.** Install pedestal extenders for each additional cabinet:

For two cabinets, insert the extender into position 3 on the pedestal (see Figure 1).

For three cabinets or more, insert the extender into position 4 on the pedestal (see Figure 2).

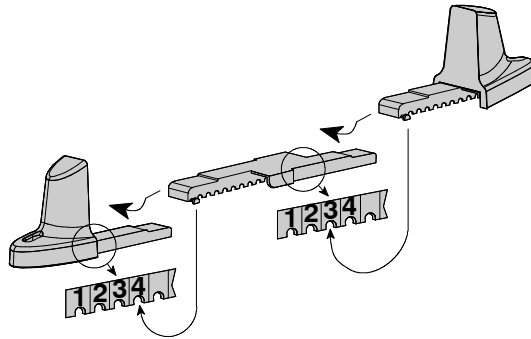


Figure 1. Extending the Pedestals for Two Cabinets

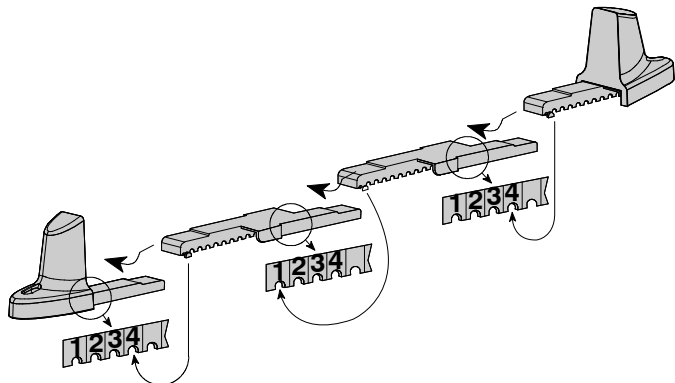


Figure 2. Extending the Pedestals for Three or More Cabinets



NOTE Eaton recommends a minimum of 150 mm (5.9") free space behind the UPS rear panel, and a distance of 450 mm (17.7") between the tower stands.

3. Carefully position the cabinet upright with the UPS indicators at the top and place in the pedestals (see Figure 3).
4. Adjust the pedestals to the size of the UPS and secure the pedestals with the captive screws.

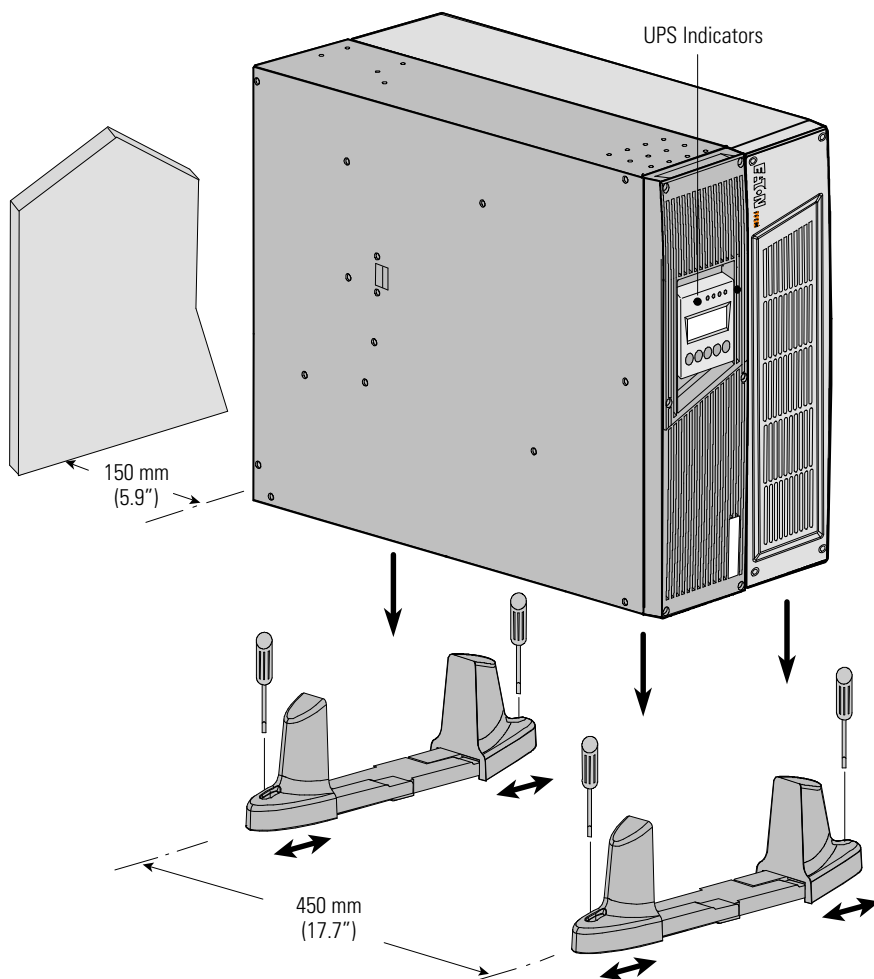


Figure 3. Tower Position with Two Cabinets

5. Align each joining bracket with the adjacent cabinet screw holes and secure with the supplied screws (see Figure 4).



NOTE *Joining brackets are required for installations with two or more cabinets.*

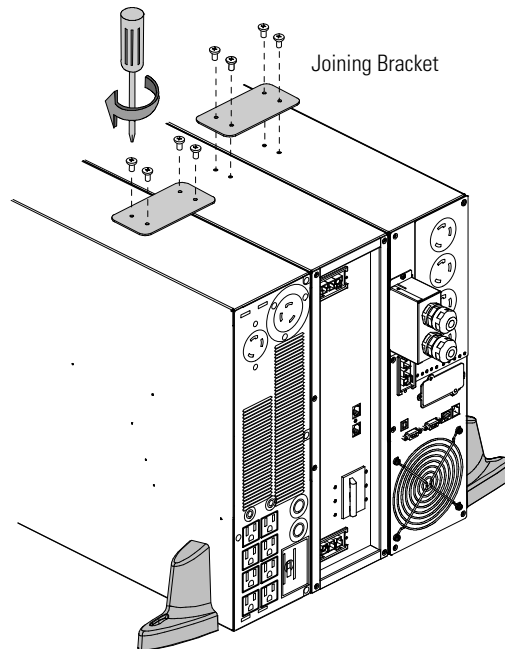


Figure 4. Installing the Joining Brackets

6. Continue to “Hardwired PPDM Installation” on page 19, or “Plug-Receptacle PPDM Installation” on page 26.
7. **Rack configuration only.** Install the PPDM below the UPS and EBM as shown in Figure 5.

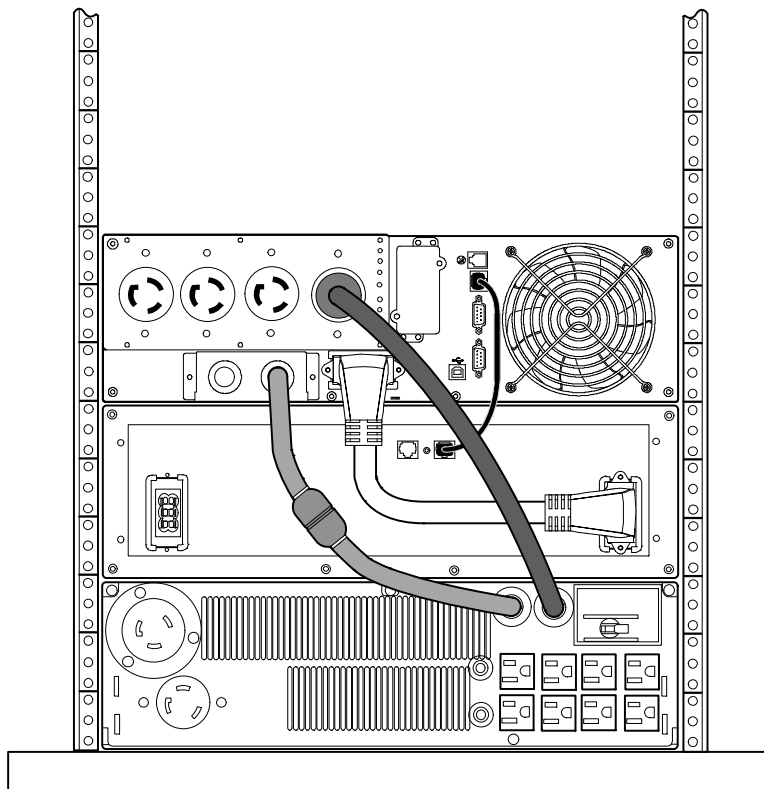


Figure 5. Typical 9135 UPS Installation with EBM and PPDM

8. Continue to “Hardwired PPDM Installation” on page 19, or “Plug-Receptacle PPDM Installation” on page 26.

Hardwired PPDM Installation



WARNING

Only qualified service personnel (such as a licensed electrician) shall perform the electrical installation. Risk of electrical shock.



CAUTION

- For PPDM models with hardwired outputs, overcurrent protection for the output AC circuit(s) is to be provided by others.
 - For PPDM models with hardwired outputs, suitably rated disconnect switches for the output AC circuit(s) are to be provided by others.
-



NOTE *Do not make unauthorized changes to the UPS or PPDM; otherwise, damage may occur to your equipment and void your warranty.*

The hardwired PPDM models require a dedicated branch circuit that meets the following requirements:

- 40A minimum circuit with short circuit and overcurrent protection
- 200–240 Vac
- Single phase
- 50/60 Hz
- The breaker must be wallmounted and be readily accessible to the operator
- Flexible metal conduit (recommended for ease of service and maintenance)

Figure 6 shows the operation of the UPS with the EPPDMG6000-3U-HW model, and Figure 7 shows the EPPDMG-6000-3U-HWEU model. For a more detailed schematic, see Figure 21 on page 40 or Figure 22 on page 41.

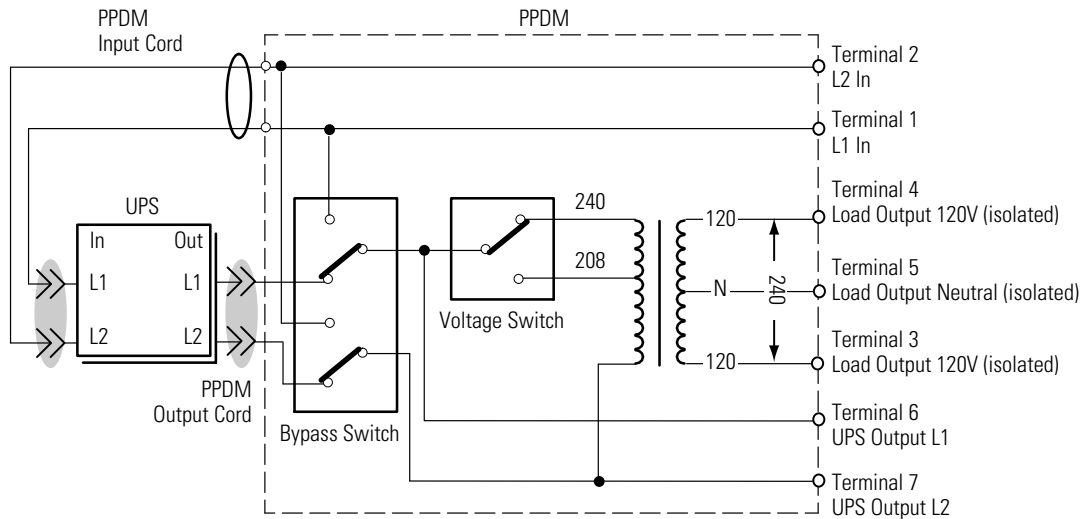


Figure 6. UPS with EPPDMG6000-3U-HW PPDM Block Diagram

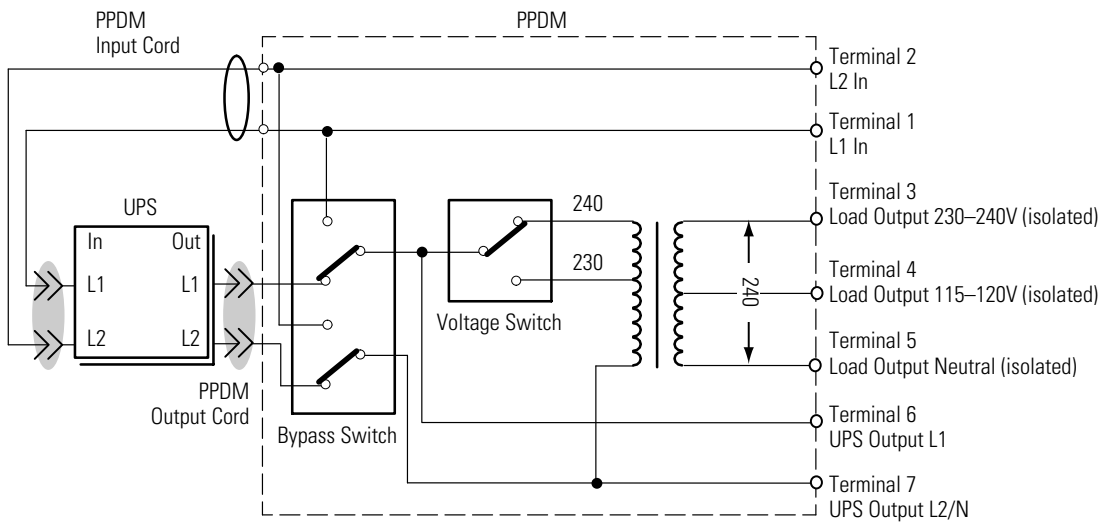


Figure 7. UPS with EPPDMG-6000-3U-HWEU PPDM Block Diagram

To hardwire the PPDM:

1. Switch off utility power at the distribution point where the PPDM will be connected. Be absolutely sure there is no power.
2. Verify that the PPDM output circuit breaker is in the OFF position (see Figure 9 on page 23).
3. Verify that the bypass switch on the PPDM is in the NORMAL position (see Figure 8).

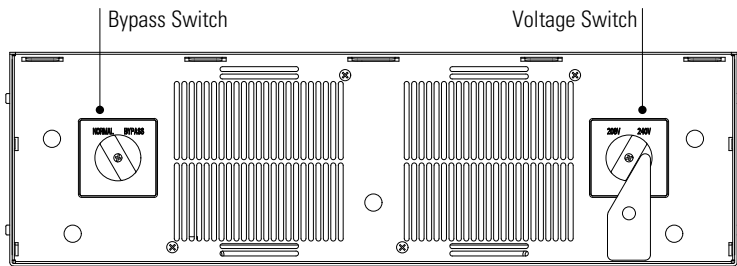


Figure 8. PPDM (with Front Cover Removed)

4. **Changing the PPDM voltage switch setting.** When the PPDM voltage switch is set to the 240V position (the default) with 240V input, the output voltage is 240/120V. When set to the 208V position with 208V input, the output voltage is 208/120V. See Table 1 for a list of PPDM input/output voltage settings. Figure 8 shows the voltage switch.



NOTE In most applications, the voltage switch does NOT need changing.

To change the switch position, remove the bracket screw and turn the switch. Flip the bracket around to fit the new position and reinstall.

Table 1. Hardwired PPDM Input/Output Voltage Settings

Input Voltage (from UPS)	EPPDMG6000-3U-HW Models Output Voltage			
	208V Switch Position		Default 240V Switch Position	
	HV (T6-7)	LV	HV (T6-7)	LV
208	208	120	208	104
220	220	126	220	110
230	230	131	230	115
240	240	138	240	120

Input Voltage (from UPS)	EPPDMG-6000-3U-HWEU Models Output Voltage			
	230V Switch Position		Default 240V Switch Position	
	HV (T6-7)	LV	HV (T6-7)	LV
220	230	115	220	110
230	240	120	230	115
240	250	125	240	120

- Remove the wiring access cover and the conduit landing plate and retain (see Figure 9).

Punch holes in the conduit landing plate for the input and output conduit using a Greenlee® punch or similar device.

- Pull the input and output wires through separate conduit, leaving approximately 0.5m (2 ft) of exposed wire. Attach a flexible metal fitting to the end of each conduit.
- Insert each conduit through a wiring access entry and attach the conduit fitting to the panel. Strip 9 mm (0.35") of insulation from the end of each incoming wire.

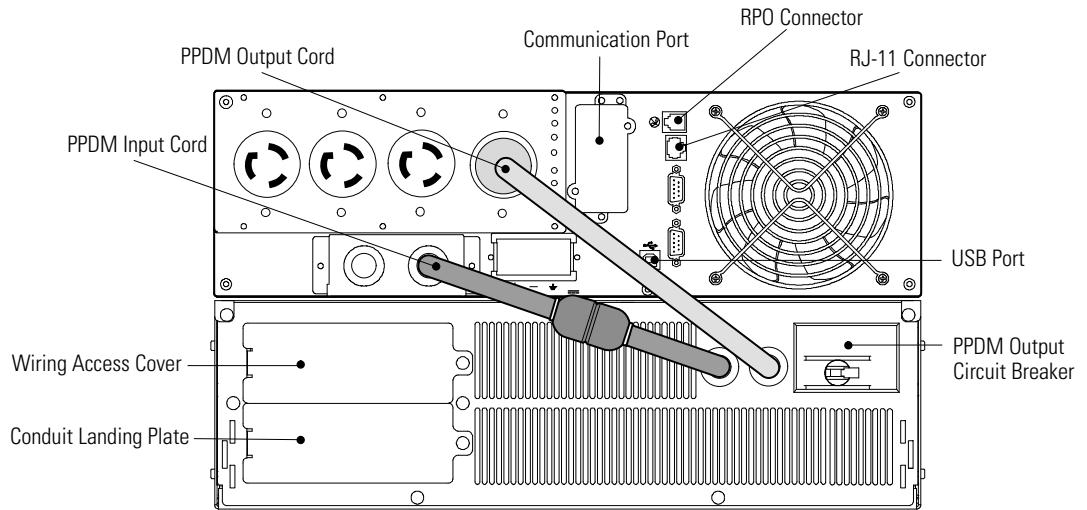


Figure 9. UPS and Hardwired PPDM Installation

8. Connect the input and ground wires to the terminal block according to the PPDM model:
 - For the EPPDMG6000-3U-HW model, see Figure 10 and Table 2.
 - For the EPPDMG-6000-3U-HWEU model, see Figure 11 and Table 2.
9. Connect the output and ground wires to the terminal block according to the PPDM model:
 - For the EPPDMG6000-3U-HW model, see Figure 10 and Table 2.
 - For the EPPDMG-6000-3U-HWEU model, see Figure 11 and Table 2.

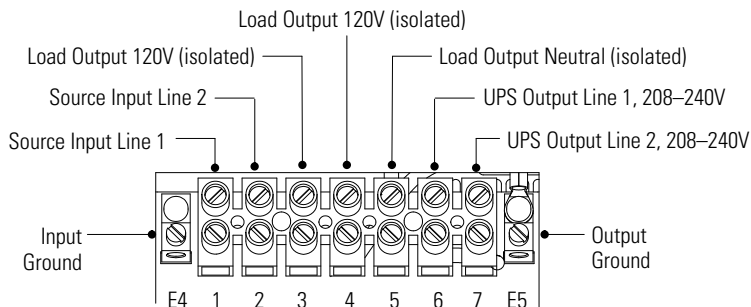


Figure 10. EPPDMG6000-3U-HW Model Terminal Block

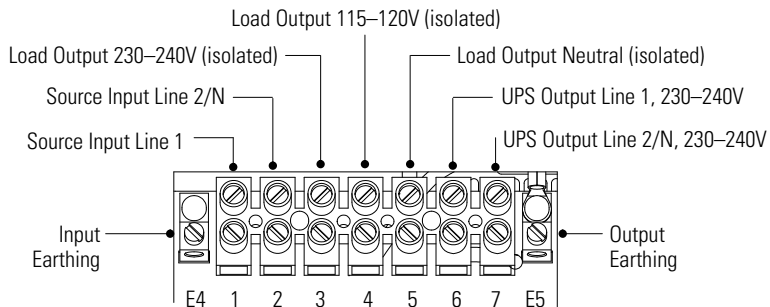


Figure 11. EPPDMG-6000-3U-HWEU Model Terminal Block

Table 2. PPDM Wiring Specifications

Terminal Position	PPDM Wire Function		Terminal Wire Size Rating*	Tightening Torque
	EPPDMG6000-3U-HW	EPPDMG-6000-3U-HWEU		
1	Source Input Line 1	Source Input Line 1	2–17 mm ² (14–6 AWG)	1.8 ±0.22 Nm (16 ±2 lb in)
2	Source Input Line 2	Source Input Line 2/N		
3	Load Output 120V (isolated)	Load Output 230–240V (isolated)		
4	Load Output 120V (isolated)	Load Output 115–120V (isolated)		
5	Load Output Neutral (isolated)	Load Output Neutral (isolated)		
6	UPS Output Line 1, 208–240V	UPS Output Line 1, 230–240V		
7	UPS Output Line 2, 208–240V	UPS Output Line 2/N, 230–240V		
E4	Input Ground	Input Earthing	2–5 mm ² (14–10 AWG)	2.26 ±0.22 Nm (20 ±2 lb in)
E5	Output Ground	Output Earthing	8 mm ² (8 AWG)	2.82 ±0.22 Nm (25 ±2 lb in)
			17 mm ² (6 AWG)	3.95 ±0.22 Nm (35 ±2 lb in)

* Use 2.0 mm² (14 AWG) 75°C copper wire minimum.

10. Replace the wiring access cover and the conduit landing plate.

11. Continue to “PPDM Startup” on page 28.

Plug-Receptacle PPDM Installation



NOTE Do not make unauthorized changes to the UPS or PPDM; otherwise, damage may occur to your equipment and void your warranty.

To install the PPDM:

1. Verify that the PPDM output circuit breaker is in the OFF position (see Figure 9 on page 23).
2. Verify that the bypass switch on the PPDM is in the NORMAL position (see Figure 12).

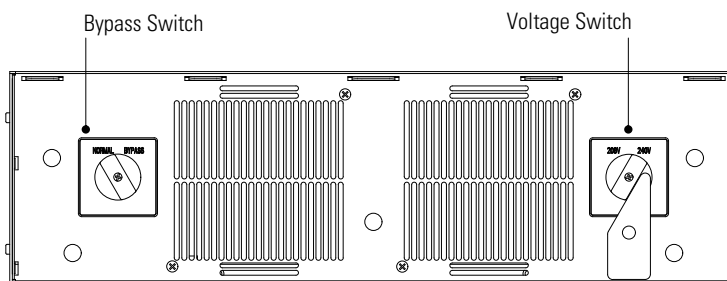


Figure 12. PPDM (with Front Cover Removed)

3. **Changing the PPDM voltage switch setting.** All high voltage outlets, except the L14-30, use the UPS output voltage. The L14-30 and all low voltage receptacles use the PPDM transformer, and the voltage switch determines the voltage. See Table 3 for a complete list of PPDM input/output voltage settings. Figure 12 shows the voltage switch.



NOTE In most applications, the voltage switch does NOT need changing.

To change the switch position, remove the bracket screw and turn the switch. Flip the bracket around to fit the new position and reinstall.

Table 3. Plug-Receptacle PPDM Input/Output Voltage Settings

Input Voltage (from UPS)	EPPDMG-6000-3U-1 (L6-30) and EPPDMG-6000-3U-2 (L6-20) Models Output Voltage			
	208V Switch Position		Default 240V Switch Position	
	L6-30R or L6-20R	5-15R	L6-30R or L6-20R	5-15R
208	208	120	208	104
220	220	126	220	110
230	230	131	230	115
240	240	136	240	120

Input Voltage (from UPS)	EPPDMG-6000-3U-3 (L5-30) Models Output Voltage	
	208V Switch Position	Default 240V Switch Position
208	120	104
220	126	110
230	131	115
240	136	120

Input Voltage (from UPS)	EPPDMG-6000-3U-4 (L14-30) Models Output Voltage			
	208V Switch Position		Default 240V Switch Position	
	L14-30R	5-15R	L14-30R	5-15R
208	240	120	208	104
220	252	126	220	110
230	262	131	230	115
240	272	136	240	120

Input Voltage (from UPS)	EPPDMG-6000-3U-5 (L6-30&L14-30) Models Output Voltage					
	208V Switch Position			Default 240V Switch Position		
	L6-30R	L14-30R	5-15R	L6-30R	L14-30R	5-15R
208	208	240	120	208	208	104
220	220	252	126	220	220	110
230	230	262	131	230	230	115
240	240	272	136	240	240	120

Input Voltage (from UPS)	EPPDMG-6000-3U-6 (L6-30) and EPPDMG-6000-3U-7 (L6-20) Models Output Voltage			
	208V Switch Position		Default 240V Switch Position	
	L6-30R or L6-20R	5-20R	L6-30R or L6-20R	5-20R
208	208	120	208	104
220	220	126	220	110
230	230	131	230	115
240	240	136	240	120

4. **Neutral-to-Ground Bonding.** The PPDM has a neutral-to-ground (N-G or neutral-to-earth) bonding screw as required under safety regulations issued by various regulatory agencies. If the neutral-to-ground connection is not needed, remove the screw to remove the bond between neutral and ground.

See “Plug-Receptacle PPDM Rear Panels” on page 31 for the neutral-to-ground screw locations.

5. Continue to the following section, “PPDM Startup.”

PPDM Startup

To start up the PPDM with a 9135 UPS, continue to the following section, “9135 UPS Startup.”

UPS Startup

To start up the PPDM with a 9135 UPS:

1. If you are installing a remote power-off (RPO) switch, install the switch before powering on the UPS. Refer to “RPO Installation” in the UPS user's guide for instructions.
2. Refer to the UPS user's guide for recommended upstream protection. For EU models, also refer to the recommendations for downstream protection.
3. Plug the input and output cords of the PPDM into the input and output power connectors on the UPS power cables (see Figure 13).

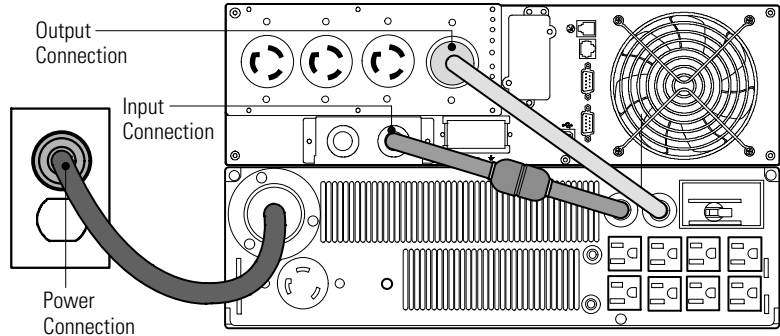


Figure 13. PPDM and 9135 UPS Connections

4. Verify that the UPS internal battery connector is connected (refer to the UPS user's guide).
5. Switch all battery circuit breakers to the ON (|) position.

6. Set the upstream circuit breaker (not included) to the ON position.

7. **Hardwired PPDM models only.** Switch the main utility breaker on.

The equipment is powered by utility power, but not protected by the UPS.

Batteries are recharging. An eight-hour recharge period is necessary to get full backup time.

The  and  indicators illuminate.

8. **Plug-receptacle PPDM models only.** Plug the supplied power cord into the input connector on the PPDM rear panel.

The equipment is powered by utility power, but not protected by the UPS.

Batteries are recharging. An eight-hour recharge period is necessary to get full backup time.

The  and  indicators illuminate.

9. Press and hold the  button until you hear the UPS beep (approximately three seconds).

After the UPS is turned on, it conducts a self-test and enters Normal mode. The  indicator remains on and the  indicator turns off indicating that power is available to your equipment.

10. Confirm the UPS output voltage through the front panel and verify that it matches the PPDM output voltage (see Table 3 on page 27).

CAUTION



Failure to match the UPS output voltage may result in a hazardous condition, including damage to the UPS or to the load.

- 11. Plug-receptacle PPDM models only.** Plug the equipment to be protected into the PPDM output receptacle(s).



NOTE *DO NOT protect laser printers with the UPS because of the exceptionally high power requirements of the heating elements.*

- 12.** Switch the PPDM output circuit breaker to the ON (|) position.



NOTE *The PPDM output circuit breaker (disconnect switch) disconnects power to the output on the PPDM rear panel, but does NOT shut off power to the UPS (opening the upstream protection would be required).*

- 13.** Install the PPDM front cover (shipped separately).
- 14.** To change the UPS default settings, refer to “Display Functions” in the UPS user's guide.

Plug-Receptacle PPDM Rear Panels

This section shows the rear panels of the plug-receptacle PPDM models.



NOTE *The rear panel for hardwired models is shown in Figure 9 on page 23.*

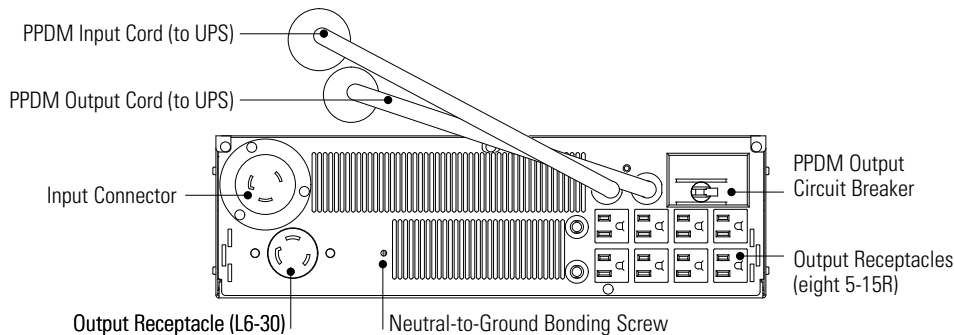


Figure 14. EPPDMG-6000-3U-1 (L6-30)

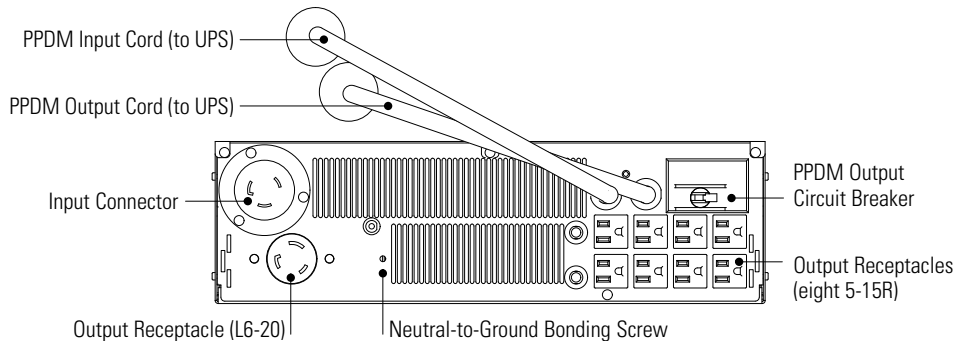


Figure 15. EPPDMG-6000-3U-2 (L6-20)

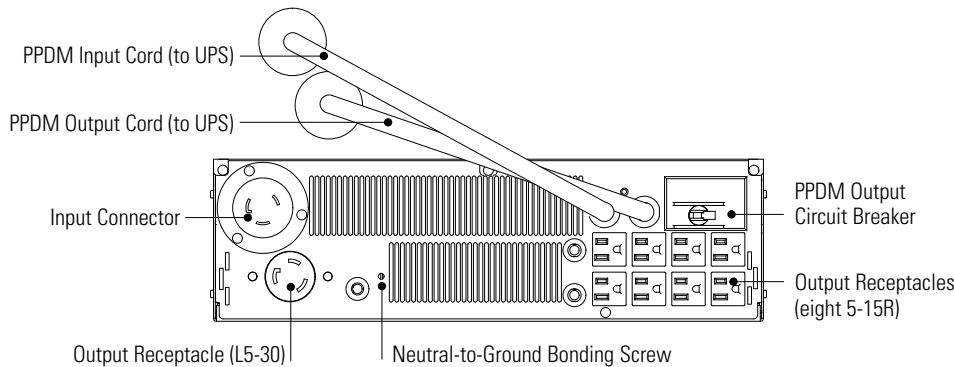


Figure 16. EPPDMG-6000-3U-3 (L5-30)

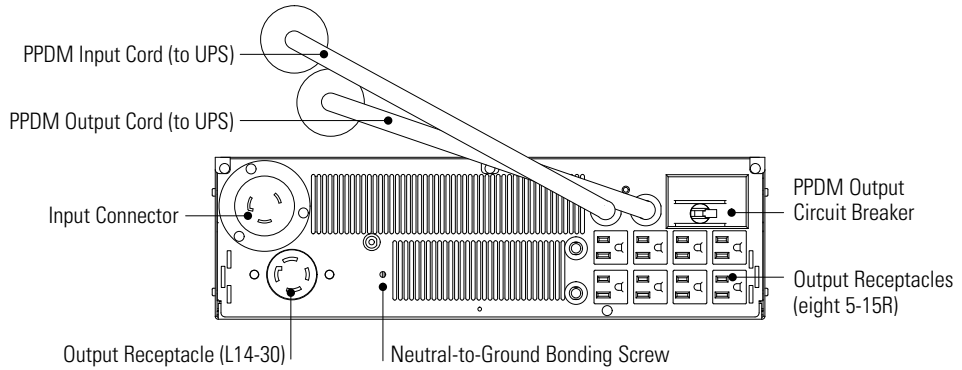


Figure 17. EPPDMG-6000-3U-4 (L14-30)

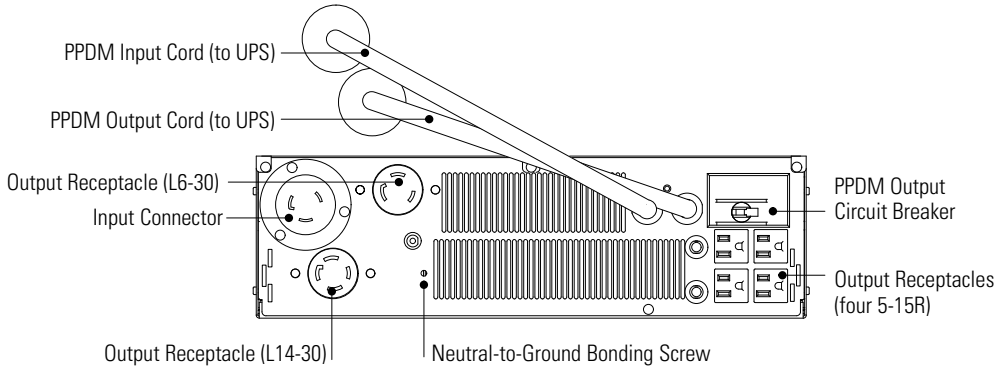


Figure 18. EPPDMG-6000-3U-5 (L6-30&L14-30)

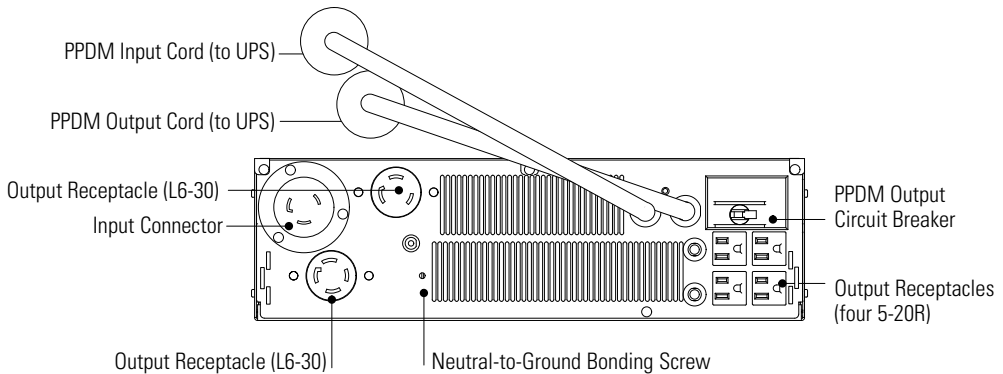


Figure 19. EPPDMG-6000-3U-6 (L6-30)

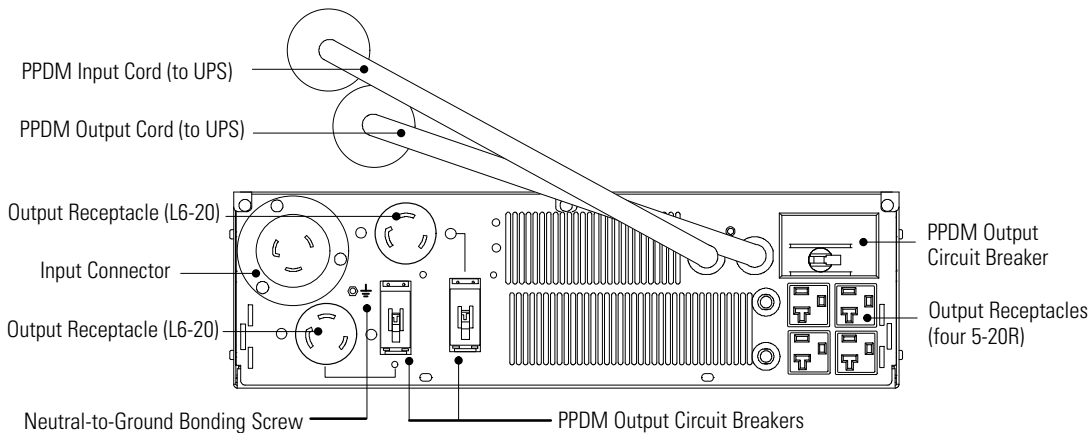


Figure 20. EPPDMG-6000-3U-7 (L6-20)

Chapter 3 Operation



NOTE Refer to the UPS user's guide for UPS operation.

The PowerPass Distribution Module (PPDM) allows for the removal of the UPS while providing power to your protected equipment. This Maintenance Bypass feature is useful when replacing the UPS for maintenance or upgrades.

Using Maintenance Bypass

To transfer your equipment to Maintenance Bypass (AC Line operation) and remove the 9135 UPS:

1. Remove the PPDM front cover.
2. Press the  button on the UPS for approximately three seconds. The UPS transfers to Bypass mode and beeps once.
3. Turn the bypass switch on the PPDM to the BYPASS position. The PPDM is now powering your equipment from utility power.
4. If optional Extended Battery Modules (EBMs) are installed, switch the battery circuit breaker on the first EBM rear panel to the OFF (O) position.

Unplug the EBM cable and the EBM communication cable from the UPS.

5. Disconnect the PDM input and output cords from the UPS (see Figure 13 on page 29).
6. Remove the UPS.

To reinstall the UPS and transfer your equipment from Maintenance Bypass (AC Line operation) to the 9135 UPS:

1. If optional EBM(s) are installed, reconnect the EBM cable and the EBM communication cable to the UPS.

Switch the battery circuit breaker on the first EBM rear panel to the ON (|) position.

2. Plug the input and output cords of the PPDM into the input and output power connectors on the UPS (see Figure 13 on page 29).
3. If the PPDM voltage switch is set to 208V, confirm the UPS output voltage through the front panel (refer to the UPS user's guide).
4. Turn the bypass switch on the PPDM to the NORMAL position.
5. Press and hold the  button on the UPS until you hear the UPS beep (approximately three seconds).

The UPS conducts a self-test and enters Normal mode. The  indicator remains on and the  indicator turns off indicating that power is available to your equipment.

6. Reinstall the PPDM front cover.

Chapter 4 Specifications

Table 4. Model Specifications

Model	Input Voltage	Input Current	Output Voltage ¹	Output Current	Output Receptacles
EPPDMG6000-3U-HW	208/240V	30A	115/120V	41A/208V	Hardwired
			208/240V	30A	
EPPDMG-6000-3U-HW EU	230/240V	30A	115/120/230/240V	30A	Hardwired
EPPDMG-6000-3U-1 (L6-30)	208/240V	24A	115/120/208/240V	30A	(1) L6-30R, (8) 5-15R
EPPDMG-6000-3U-2 (L6-20)	208/240V	24A	115/120V	20A	(1) L6-20R, (8) 5-15R
			208/240V	30A	
EPPDMG-6000-3U-3 (L5-30)	208/240V	24A	115/120V	41A/208V 45A/240V	(1) L5-30R, (8) 5-15R
EPPDMG-6000-3U-4 (L14-30)	208/240V	24A	115/120V	41A/208V 45A/240V	(1) L14-30R, (8) 5-15R
			208/240V	30A	
EPPDMG-6000-3U-5 (L6-30&L14-30)	208/240V	24A	115/120V	41A/208V 45A/240V	(1) L6-30R, (1) L14-30R, (4) 5-15R
			208/240V	30A	
EPPDMG-6000-3U-6 (L6-30)	208/240V	24A	115/120/208/240V	30A	(2) L6-30R, (4) 5-20R
EPPDMG-6000-3U-2 (L6-20)	208/240V	24A	115/120V	20A	(2) L6-20R, (4) 5-20R
			208/240V	30A	

¹ Output voltage varies $\pm 5\%$ based on the attached load.

Table 5. Technical

Frequency	60 Hz EPPDMG-6000-3U-HWEU: 50/60 Hz
Isolation Transformer	208V/120V or 240V/120V
Bypass Switch	30A
Operating Temperature	0°C to 40°C (32°F to 104°F)
Storage Temperature	-22°C to 55°C (-7°F to 131°F)
Relative Humidity	5–95% noncondensing
Safety Conformance	UL 1778; CSA C22.2, No. 107.1, 107.2; NOM-019-SCFI EN 62040-1-1 (2004-12), EN 62040-2 (2006-6), IEC 60950
Agency Markings	cULus, cUL, CE
EMC (Class A)	EN 50091-2, FCC Part 15, ICES-003
Dimensions (WxDxH)	442 × 683 × 130 mm 17.4" × 26.9" × 5.1" (3U)
Weight	46.7 kg (103 lb)

Chapter 5 PPDM Schematics

This section shows the schematics of each PPDM model.

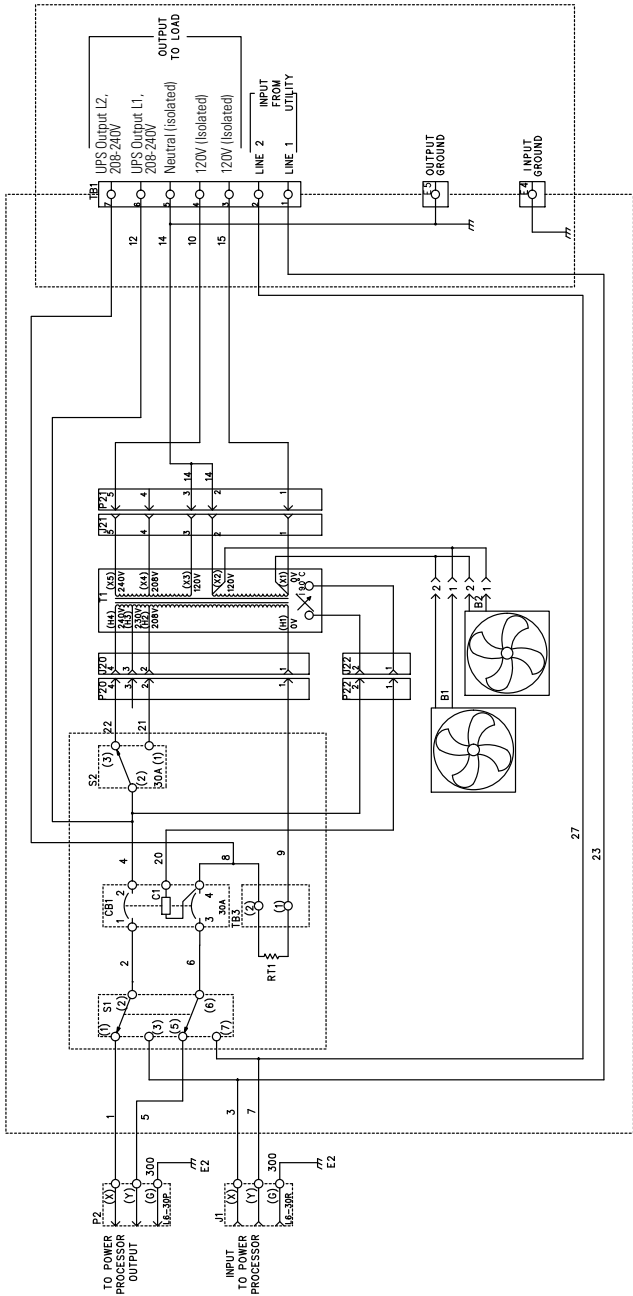


Figure 21. EPPDMG6000-3U-HW Schematic

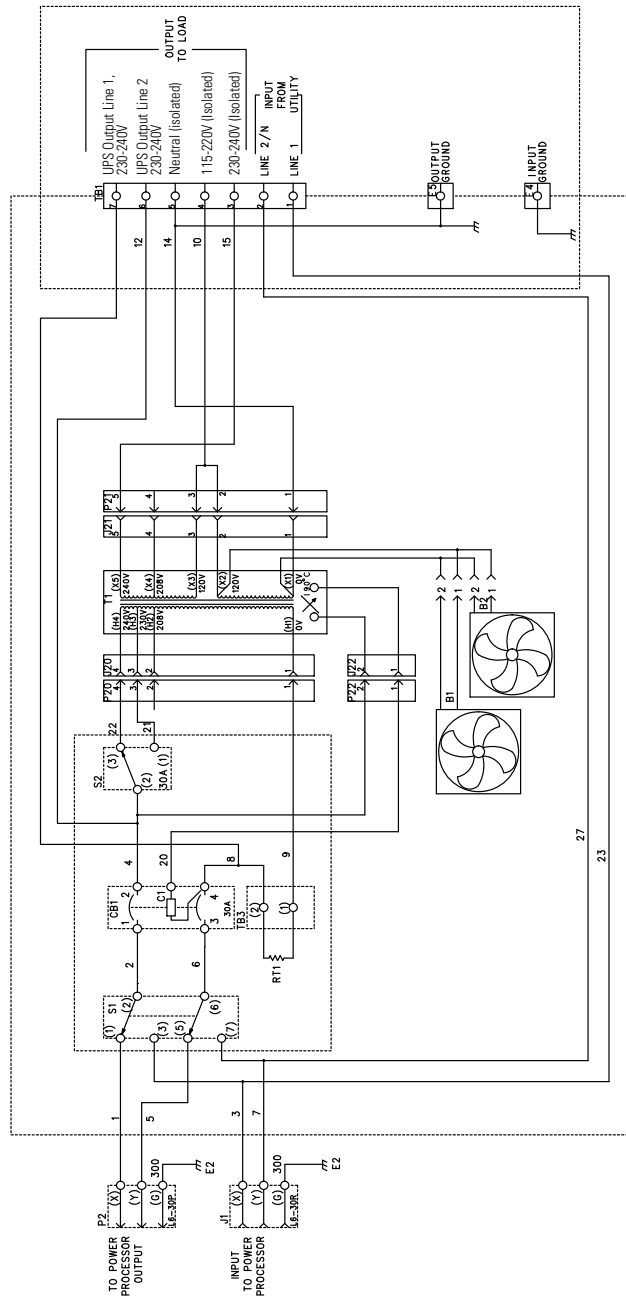
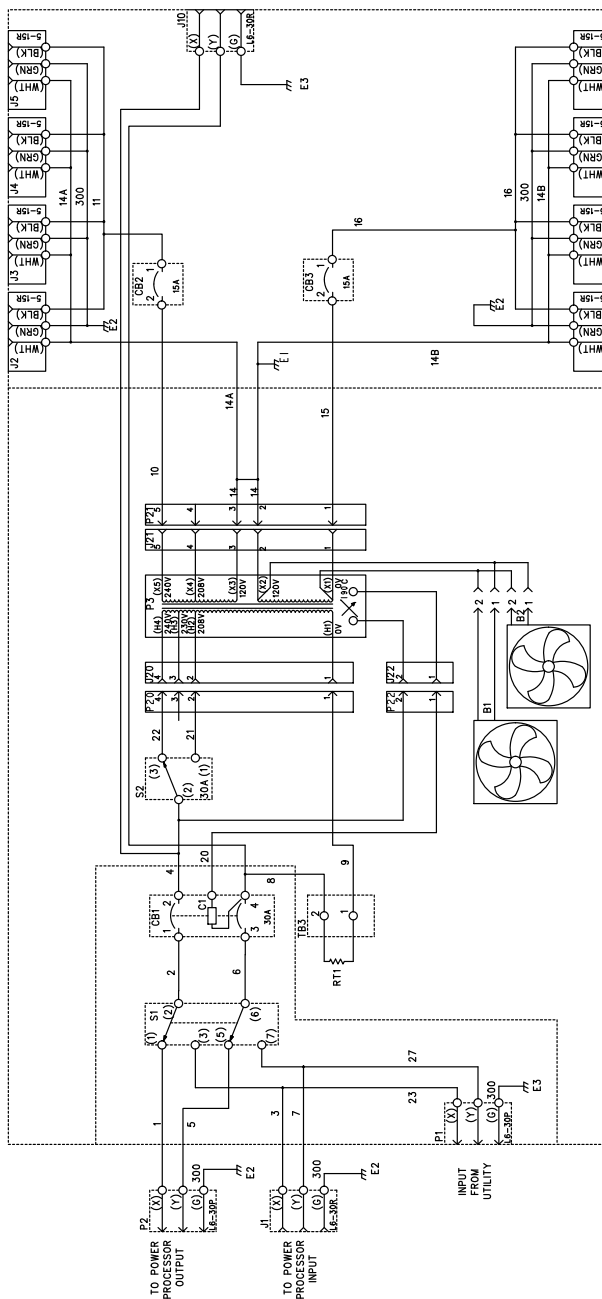


Figure 22. EPPDMG-6000-3U-HWEU Schematic



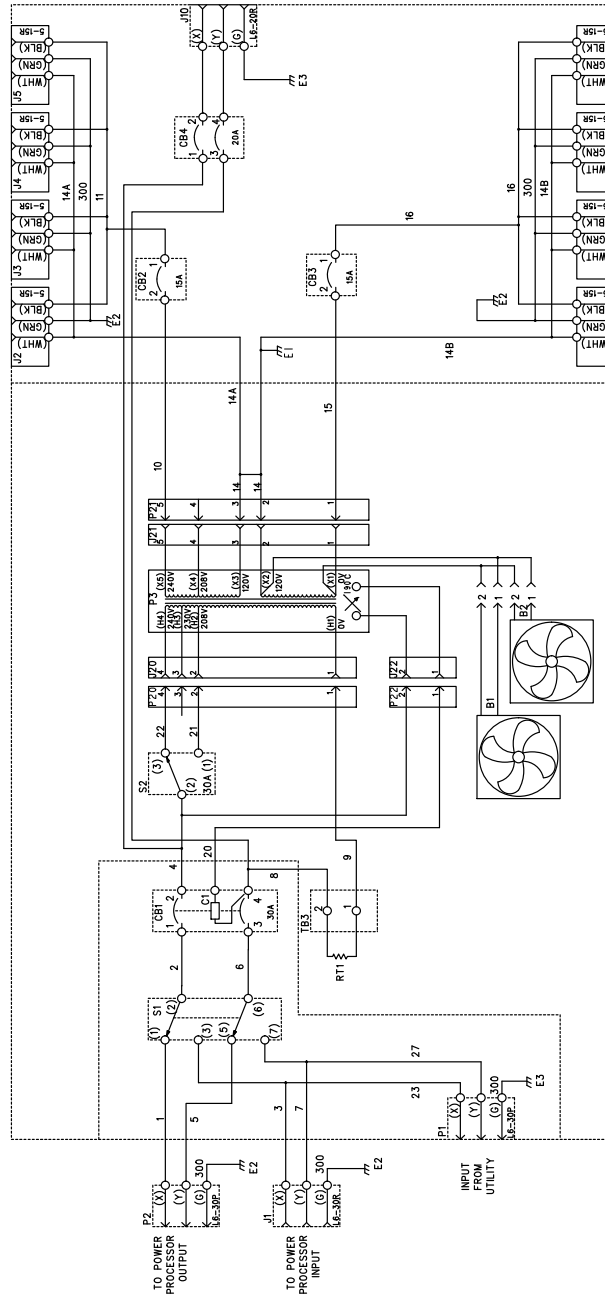
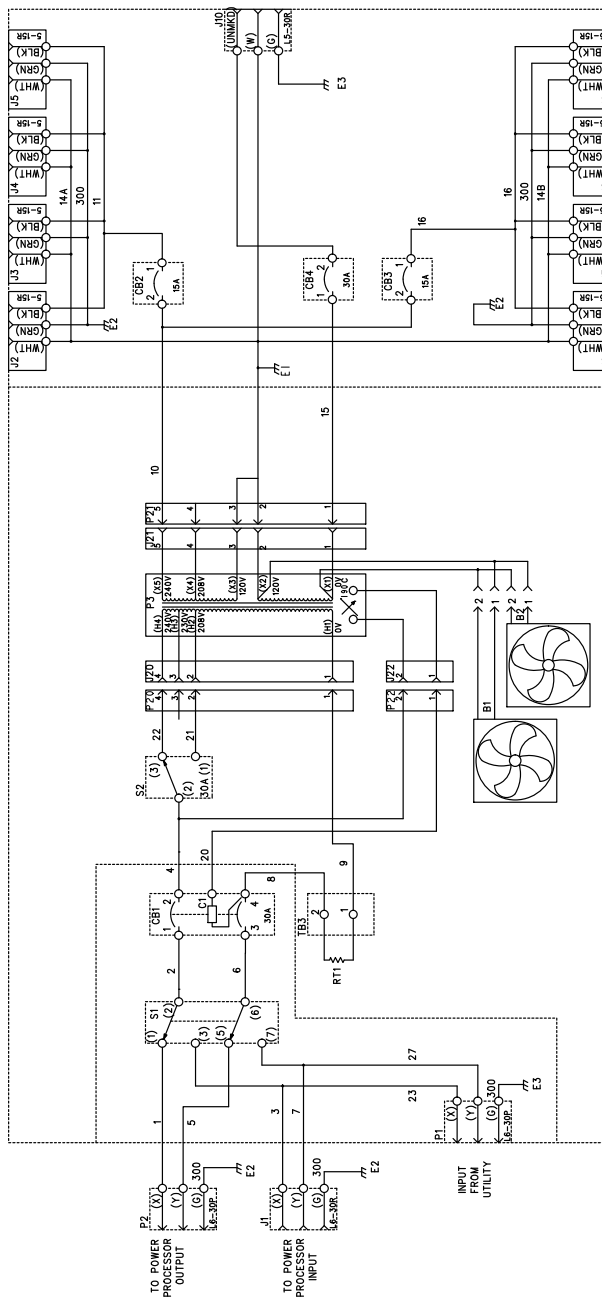


Figure 24. EPPDMG-6000-3U-2 (L6-20) Schematic



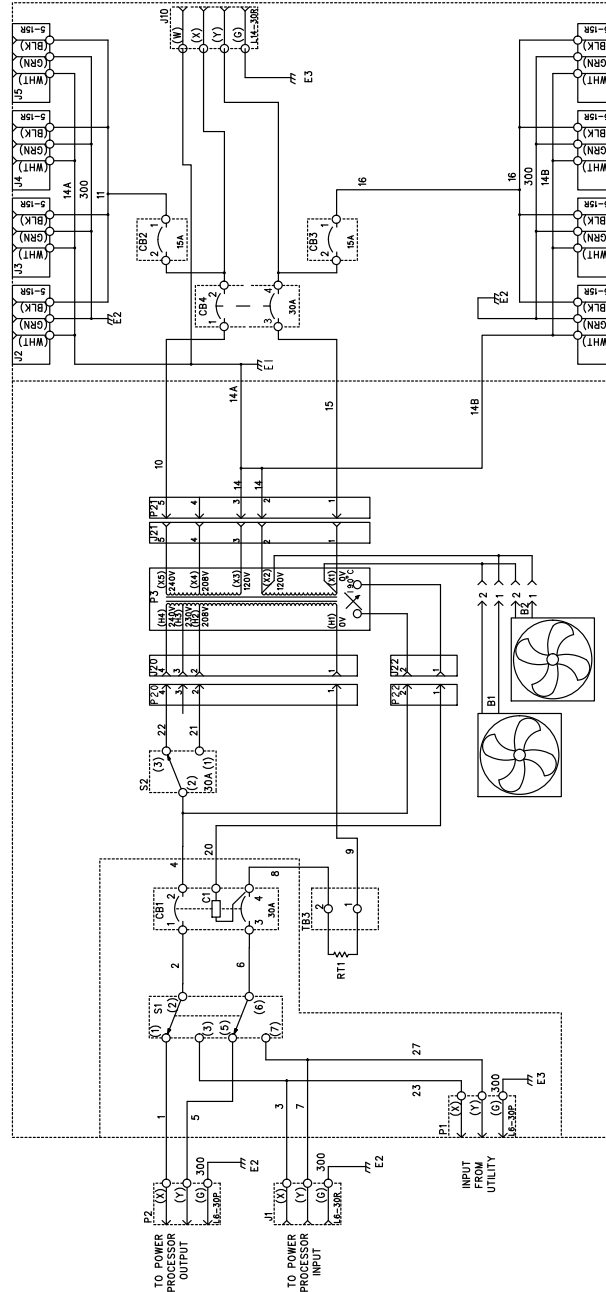
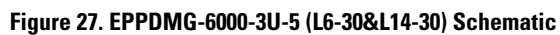


Figure 26. EPPDMG-6000-3U-4 (L14-30) Schematic



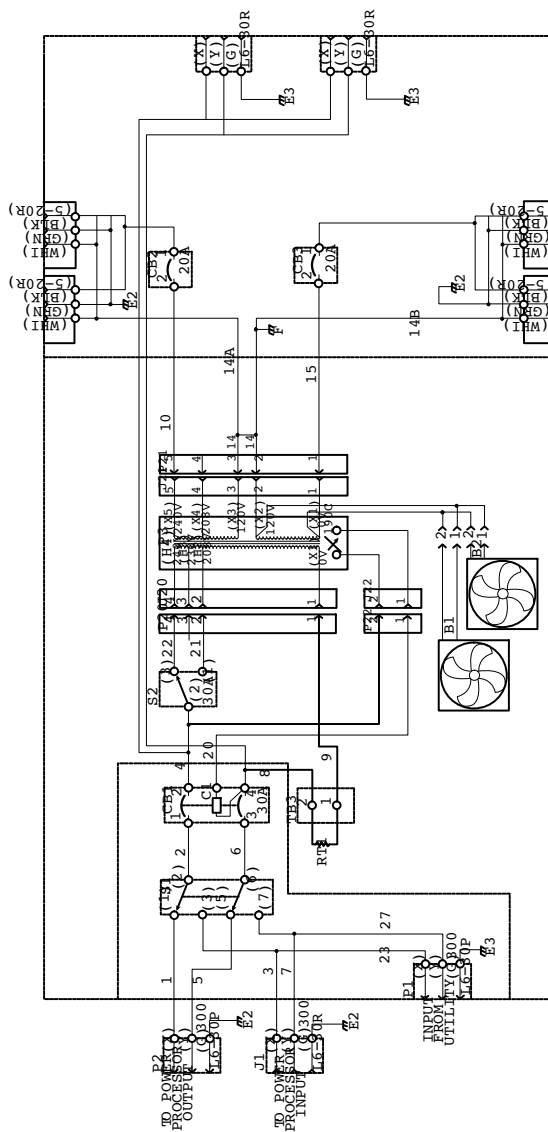


Figure 28. EPPDMG-6000-3U-6 (L6-30) Schematic

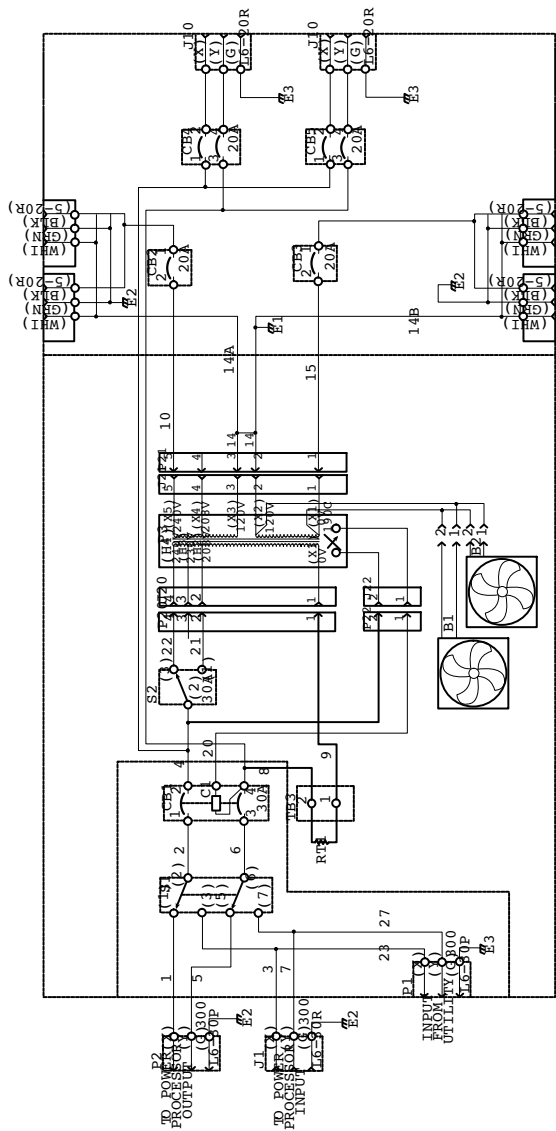


Figure 29. EPPDMG-6000-3U-7 (L6-20) Schematic

Chapter 6 Service and Support

If you have any questions or problems with the UPS, call your **Local Distributor** or the **Help Desk** at one of the following telephone numbers and ask for a UPS technical representative.

United States: **1-800-356-5737 or 1-919-870-3149**
Canada: **1-800-461-9166 ext 260**
All other countries: **Call your local service representative**

Please have the following information ready when you call the Help Desk:

- Model number
- Serial number (located behind the UPS front cover)
- Version number (if available)
- Date of failure or problem
- Symptoms of failure or problem
- Customer return address and contact information

If repair is required, you will be given a Returned Material Authorization (RMA) Number. This number must appear on the outside of the package and on the Bill Of Lading (if applicable). Use the original packaging or request packaging from the Help Desk or distributor. Units damaged in shipment as a result of improper packaging are not covered under warranty. A replacement or repair unit will be shipped, freight prepaid for all warrantied units.



NOTE *For critical applications, immediate replacement may be available. Call the **Help Desk** for the dealer or distributor nearest you.*



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